

SECTION 10670 - STORAGE SHELVING

PART 1 - GENERAL

1.01 GENERAL CONDITIONS

As specified in Section 00800.

1.02 SUBMITTALS

6 sets of complete shop drawings, manufacturer's literature and color samples shall be submitted to the Engineer within 15 days after award of Contract for approval before any work is fabricated. Because this is a long lead item, ordering shall be made immediately after such approval.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Asbestos Prohibition: No asbestos containing materials shall be used under this section. The Contractor shall insure that all materials incorporated in the project are asbestos-free unless specifically approved in writing by the Engineer.

B. Metal Bookshelving (Bracket Type):

Specify this type for Library Reading Rooms and Stack Rooms. Do not use for Storerooms.

1. General: Metal bookstacks shall be single face or double face, free-standing bracket type. Sheet steel shall be cold-rolled furniture stock, gauges as hereinafter specified. Assembly screws shall be oval-head Phillips type and cadmium-plated.
2. Upright Columns shall be one-piece or two-piece channel shapes with stiffened flanges not less than 2 in. x 2 in. in cross dimensions, of 16-gauge material, with not less than 8 right angle bends. Each upright shall have 2 rows of perforated slots on opposite sides spaced not more than 1/2" apart horizontally. Slots shall be one inch o.c. vertically. Columns shall be spaced 36 inches o.c. and of height shown on the plans.
3. Base Brackets shall extend in one piece, on both sides of the double-face units, to the opposite face. They shall extend one inch to the rear of the uprights for the single-face units. The brackets shall be adjustable and fit snugly around the

upright to provide maximum support and safety. The parts shall be bolted securely in a recessed manner. The brackets shall have vertical plates approximately 10 in. high which shall match the shelving. Base plates shall have a rubber pad to prevent lateral movement. Brackets shall be 13-gauge.

4. Bottom Channels shall be one-piece, 20-gauge, 2 in. wide and formed to engage the base bracket. The channel sides shall form a filler for the shelf back and allow removal of any section. Channels shall be the length of one section and not continuous.
5. Top Channels shall be one piece, 18-gauge and 2-1/8" side to tie the upright. Channel shall be attached to each upright with a bolt and an acorn-nut.
6. Bracing shall be diagonal of 1/4" diameter rod which can be installed through the base assembly and the top channel, or between the uprights. Adjustment shall be made by means of a nut or turnbuckle. There shall be one pair of braces for not more than 9 ft. of double-face shelving and an additional pair for every third additional section or fraction thereof.
7. Shelf Brackets for the adjustable shelves shall be 16-gauge, same depth as the shelf and shall extend 6-1/4" above the shelf. Front and top edges shall be rolled 1/4" continuously from the column to the bottom front edge of the bracket. Shelf brackets shall be J-fold type to support full depth of shelf, have 2 hooks at the top and a lug at the bottom which shall serve to prevent accidental dislodgement.
8. Adjustable Shelves shall be one-piece, 18-gauge and 35-1/2" long between brackets, with three 90° bends box-formed to give a 13/16" face at front and back, and ends turned down 5/6" to engage brackets. Nominal depth shall be from center of column to face of shelf with actual depth one inch less than the nominal. Shelf shall be constructed to support a uniform load of 40 pounds per square foot with a deflection of 3/16" or less. Nominal depth of shelves shall be 10 inches in Reading Room, 12 inches in Stack

Room.

The following number of adjustable shelves shall be provided for each 3-foot unit:

Height	No. of Adjustable Shelves Required
42 in.	2
66 in.	4
78 in.	5

Show height of all units, either on elevations or on plan.

9. Base Shelf shall be one piece 18-gauge and similar to the adjustable shelf, but shall include a base strip. Strip shall have a one inch return top and bottom. Shelf and base strip shall attach to the base brackets with concealed fasteners. Height of shelf and base shall be 3 to 4 inches. Base shelf shall have a back to act as a rear book stop unless a separate book stop is available for it. A 1-1/2" x 3/8"± sheet metal height adjustment strip (and attaching screws), as wide as and finished as for the shelving shall also be provided.
10. End Panels shall be one piece and 18-gauge, installed at all exposed ends. The panel shall extend the full width of the section, including the base, and the full height. Panel shall be flush with a 3/4" radius return on the exposed edges. Return shall be not less than 3 in. parallel to the face. Panel shall have stiffener flanges at top and bottom. Overall thickness shall be 2 in.
11. Finish and Color: The finish of the metal work shall be of the very highest grade. Each part shall be prepared for painting by a 5-stage cleaning and phosphatizing process known as Bonderizing. After passing thru a dry-off oven, a finish coat of premium semi-gloss baking enamel shall be applied and baked at high temperature. Final finish shall be a minimum of 1.0 mil. Color shall be one color as selected from the manufacturer's standard color chart by the Engineer.
12. Canopy Top: All units, including magazine racks, shall have canopy top standard with manufacturer. Tops for all units up to 42 inches high shall be 18-gauge and in one

piece, including the area over the columns.

13. Closed Backs shall be 22-gauge steel punched on both vertical edges for bolting to upright columns. All single-face units not along wall shall have enclosed backs.
 14. Label Holders shall be clip type to be secured to the face of the shelf without tools. Material shall be of aluminum or steel. Holders shall be furnished - one for each adjustable shelf.
 15. Book Supports shall be wire book supports and hook-on book supports.
 - a. Wire book supports shall be cadmium-plated, removable, adjustable and made for insertion into shelf flanges. One required for each adjustable shelf.
 - b. Hook-on book supports shall be 9 inches high, 18-gauge, same finish and color as shelves. One required for each top shelf since wire book support cannot be inserted into canopy flange. Contact surface with shelf shall be provided with buffer material to prevent scraping.
 16. Rear Book Stop shall be installed on all standard adjustable shelves. Book stops shall be 20 ga., approximately 1/2" x 1-5/8" with four (4) 90° bends. Book stops shall be hooked to the perforated slots of the upright columns. A rear book stop shall also be installed on the base shelf unless it has a back of its own.
 17. Divider Shelves shall be installed on _____ 3-foot unit of shelves. The number of divider shelves and their depth shall be the same as for one 3-foot unit of standard shelves. Each divider shelf shall have 5 dividers, 6-1/4" high made of 20-ga. steel.
- C. Magazine Racks: Magazine racks shall be of the same material and construction as outlined above for the shelving. Units shall be as shown on the drawings, approximately 36 in. wide by 42 in. high by 14 in. deep. Each unit shall have 2 sloping shelves - one horizontal shelf and one base shelf.
- Indicate here and on plan the number and location of these units of divider shelves.

NOTES TO ARCHITECT

D. Metal Storage Shelving (Open-Type): Open-type storage shelving shall be heavy duty, free-standing type, of steel, and shall meet the following requirements:

Specify this type for storerooms only.

1. Posts shall be offset angle post, 14-gauge hot-or cold-rolled steel, min. 1.875" x 1" and punched on 1-, 1-1/2- or 2-inch centers. Beaded or Delta posts, 14-gauge, shall be acceptable for front posts only. Where resilient flooring is used, attach to the bottom of each post a metal floor shoe or foot plate which will transfer the post load to the floor without cutting into the flooring. Where posts are anchored to walls, hardware and parts as necessary to enable height adjustment of front posts as necessary for full bearing shall be provided.
2. Shelves shall be 18-gauge with two 90° bends along side edges to form a channel shape and three 90° bends along front and back edges to form an open-box shape. Each shelf shall be equipped with 4 shelf hangers. Shelf shall be constructed to support a uniform load of 40 pounds per square foot with a deflection of 3/16" or less.
3. Cross-Braces of one inch wide x 13-gauge thick steel shall be attached to posts at 30 inches o.c. vertically, with one cross-brace at the back and one at each side.
4. Each section shall be 84 inches high x 12 inches deep x 48 inches wide, with 7 shelves including the top and bottom.
5. Finish and Color: Bonderized and finished with baked enamel. Color shall be as selected by the Engineer from manufacturer's standard color chart.

Modify depth of shelf to suit your project.

PART 3 - EXECUTION

3.01 INSTALLATION

All components shall be erected in strict accordance with manufacturer's instructions unless otherwise specified herein. All parts shall be securely screwed and bolted tight, true to line, level and plumb with all shelving placed in correct operating condition. Where shelves are located against a wall, each post shall be anchored to the wall using a clip angle which shall be primed and painted to match the shelving, bolted to the post with 1/4" bolts and fastened to the walls with

NOTES TO ARCHITECT

anchors appropriate to the wall material. For metal bookshelving the height of the adjustment strip shall be moved as necessary to cover the gap between the baseplate and floor due to any out-of-level condition of the latter. Where single-face shelves are free standing, horizontal steel braces primed and painted to match the shelving shall be provided at the top of each post to tie the shelves to adjacent shelves or to the nearest wall.

END OF SECTION